

Notice of Allowability

Application No.

10/720,756

Examiner

Christine M. Behncke

Applicant(s)

CARLSSON ET AL.

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the preliminary amendment filed 25 November 2003.
2. ☒ The allowed claim(s) is/are 1-22.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☒ Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 4/2/2004
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application (PTO-152)
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____


THOMAS BLACK
SUPERVISORY PATENT EXAMINER

DETAILED ACTION

This office action is in response to the application filed 25 November 2003, in which claims 1-22 were presented for examination.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on 2 April 2004 has been considered by the examiner. However, the document number listed as "2003057327" under U.S. Patent Documents is not a valid US Application Publication No., therefore was not considered.

EXAMINER'S AMENDMENT

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Edward Pennington, Reg. No. 32,588, on 21 August 2006.

Claim 5: second line, "claim 2" has been deleted, it is replaced with --claim 3--.

Claim 6: second line, "claim 2" has been deleted, it is replaced with --claim 3--.

Claim 8: second line, "claim 1" has been deleted, it is replaced with --claim 2--.

Claim 18: first line, "claim 16" has been deleted, it is replaced with --claim 17--.

Claim 22: second line, "characterized in that" has been deleted, it is replaced with --wherein--.

Allowable Subject Matter

Claims 1-22 are allowed.

The following is an examiner's statement of reasons for allowance:

The prior art of record does not teach or fairly suggest the claimed method and apparatus comprising an unmanned aerial vehicle controllable from a ground station comprising: a flight control in an autonomous mode wherein the vehicle flies according to a primary route defined by a first set of waypoints, a flight control in a manual mode wherein the vehicle flies according to a primary route defined by control commands received via a wireless command link to the ground station, and monitoring of a set of flight control parameters in both the autonomous mode and the manual mode, wherein if, in any of the modes, at least one of the flight control parameters falls outside an acceptable range a major alarm condition is activated, the method involves flying the vehicle according to an emergency route defined by a second set of waypoints wherein the set of flight control parameters includes at least one engine parameter, and activating a major alarm condition with respect to an engine failure in case at least one of the at least one engine parameter decreases below a threshold value, thereby flying the vehicle by the emergency route to an air space above a termination waypoint on the ground.

The prior art teaches a remotely controlled unmanned air vehicle comprising: flight control in both an autonomous mode and a manual mode according to a primary route; in the event of an interruption of radio contact between the air vehicle and the control station, the air vehicle flies according to a second route to a predetermined landing strip.

The prior art teaches an alternate destination navigation system in a piloted aircraft comprising: monitoring a set of flight parameters, including at least one engine parameter, displaying an alarm when at least one monitored flight parameter falls outside an acceptable range, activating an alarm with respect to an engine failure, and calculating and displaying alternative routes from the aircraft's position to an area above set termination waypoints on the ground where the aircraft can land. The calculated and displayed alternative destination points are displayed by estimated time of arrival and estimated fuel remaining in the aircraft once landed, and further considered regarding external environmental parameters and the condition of the aircraft. Further the prior art teaches the selection of one of a plurality of destinations by manipulating a single keyboard input that is linked to the flight management computer.

The prior art teaches a plurality of aircraft flight security systems and methods comprising: the detection of an emergency situations by monitoring onboard personnel, control data, aircraft systems, video, audio and changes of navigation; activating autonomous or remote control of the aircraft to direct the aircraft to a destination that is considered a safe location for the aircraft and facilitate a reasonably safe emergency landing.

However, none of the prior art of record either singularly or in combination teaches the claimed method and apparatus.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably

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accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."


Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Christine M. Behncke whose telephone number is (571) 272-8103. The examiner can normally be reached on Monday - Friday 8:30 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas G. Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

CMB


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